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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,915	03/05/2002	Konstantin Holdermann	47585/MJM/S969	7688

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EXAMINER

AHMED, SHAMIM

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/090,915

Applicant(s)

HOLDERMANN, KONSTANTIN

Examiner

Shamim Ahmed

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/272,022.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2&3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al (4,137,123).

Bailey et al (Bailey) disclose a pyramidal texture etching of a silicon surface and the composition of a surface etchant includes aqueous solution of alkali metal hydroxide such as potassium hydroxide, isopropyl alcohol or ethylene glycol (col.2, lines 3-11).

Bailey fails to teach or disclose that isopropanol and ethylene glycol both can be introduced simultaneously.

However, Bailey teaches that either isopropanol or ethylene glycol can be added to the etching solution for the same purpose.

Therefore, it would have been obvious to one skill in the art to add both or a mixture of isopropanol and ethylene glycol into the etchant composition because both of them are functionally equivalent as taught by Bailey for the same purpose.

Furthermore, it has been held that it is prima facie obvious to combine two compositions each taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. See *In re Kerkhoven*, 205 USPQ 1069, 1072.

As to claims 2 and 8, Bailey discloses that silicate can be introduced into the etchant (col.2, lines 3-31 and lines 38-45).

3. Claims 1-5, and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al (USP 4,137,123) in view of Okunaka et al (4,643,913).

Bailey et al (Bailey) disclose a pyramidal texture etching of a silicon surface and the composition of a surface etchant includes aqueous solution of alkali metal hydroxide such as potassium hydroxide, isopropyl alcohol or ethylene glycol (col.2, lines 3-11).

Bailey fails to teach or disclose that isopropanol and ethylene glycol can be introduced simultaneously.

However, in a method of processing a silicon solar cell, Okunaka et al teach that mixture of isopropanol and ethylene glycol can be used as solvent in a composition (col.4, line 67-col.5, line 1-5).

Therefore, it would have been obvious to one skill in the art to employ Okunaka et al's teaching of addition of both or a mixture of isopropanol and ethylene glycol into Bailey's composition for uniform dispersion of chemical constituents in the composition as taught by Okunaka et al.

As to claims 2 and 8, Bailey discloses that silicate can be introduced into the etchant (col.2, lines 3-31 and lines 38-45).

As of claims 3 and 9, Bailey teaches that isopropanol or ethylene glycol can be 0 to 75% by volume (col.2, lines 6-8).

As to claims 4-5 and 10-11, it would have been obvious to one skill in the art to optimize, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

4. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al (4,137,123) in view of Okunaka et al (4,643,913) as applied to claims 1-5, 7-11 above, and further in view of Applicants admitted prior art.

Modified Bailey et al discussed above in the paragraph 3 but fails to teach that the aqueous alkaline ethylene glycol is reacted with oxygen.

However, Applicant admits that it is well known that aqueous alkaline ethylene glycol is advantageously reacted with oxygen (see, specification page 1, lines 24-page 2, line 3 and page 3, lines 24-29).

Therefore, it would have obvious to one having ordinary skill in the art at the time of claimed invention to employ Applicant's admission into modified Bailey's teaching because it is admitted to be known in the art for forming uniform pyramids by aerating the etching solution with oxygen as taught by Applicant's admitted prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (703) 305-1929. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

Application/Control Number: 10/090,915  
Art Unit: 1765

Page 5

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G Norton can be reached on (703) 305-2667. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Shamim Ahmed  
Examiner  
Art Unit 1765

SA  
August 6, 2003

NADINE G. NORTON  
PRIMARY EXAMINER

